

# TELIDON REPORTS

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## SPECIAL ISSUE: TELIDON AND EDUCATION

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### WATERLOO FIRM GAME FOR TELIDON

Fraser Research, in co-operation with the University of Waterloo and the Canadian Industrial Innovation Centre, produces crossword puzzles and games for Telidon systems. Designed by computer, the puzzles are among the

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most challenging in the world, says company president Niall Fraser.

As part of their course requirements, University of Waterloo students develop content and software for a variety of videotex applications including operational research, pattern recognition and assembly language programming. Using university equipment and resources provided by the Canadian Industrial Innovations Centre, students are also researching techniques for page creation and data base management.

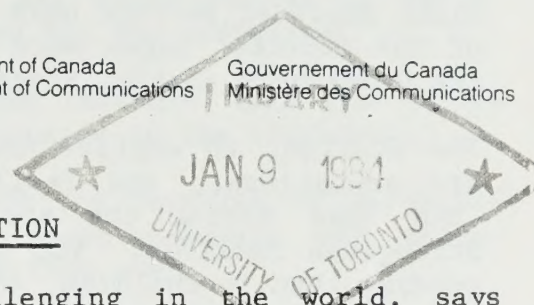
Fraser Research also plans to contribute pages to Infomart's Teleguide service in Toronto.

For more information, contact  
Niall Fraser, president,  
Fraser Research,  
156 Columbia St. W.,  
Waterloo, Ontario,  
N2L 3L3  
(519) 885-5750

### ELECTRONIC STORYBOOKS FOR CHILDREN

Genesis Research Corporation, an electronic information company for Telidon systems, is producing children's stories for Grassroots and Vista subscribers.

La version française de ce bulletin peut être obtenue gratuitement auprès de la Direction de la gestion des applications de l'informatique, Ministère des Communications, Pièce 1718, Tour Journal sud, 365, avenue Laurier, Ottawa (Ontario) Canada K1A 0C8.  
Pierrette Tower (613) 593-6330.





"The stories are the most popular item on both data bases," says Genesis vice-president, Greg Stetski. During the first month of service more than 15,000 of the stories' pages were accessed on the Grassroots system, Stetski says.

The stories, 10 english and 5 french, are educational, and family-oriented. "The idea behind the stories is to strengthen families. You have parents reading them to children, and therefore the family is interacting with television. TV is no longer a passive experience," Stetski says.

The stories are aimed at children 3-8 years old, but Stetski says older children, 10-12 years, are also reading them.

Genesis now offers a new children's program, "Genesis Storytime", on open cable television Monday mornings. The company has also sold electronic storybooks to Keycom Electronic Publishing for use by 30,000 home videotex subscribers in Chicago.

For more information, contact  
Greg Stetski, vice-president  
Genesis Research Corporation,  
91 Edgemont Dr.,  
Winnipeg, Manitoba  
R2J 3H7 (204) 257-3877

#### TELIDON JOURNALISM AT U.W.O.

Journalism students at the University of Western Ontario, in London, are creating a videotex news service as part of their course requirements.

Called Westex News, the service is operated jointly by the university's school of journalism and Infomart.

In operation since March 1982, the daily news service carries 25-30 stories and is offered on the Grassroots data base which serves the agricultural community of Manitoba and Saskatchewan.

"The Westex News project puts the School of Journalism in an ideal

research situation with respect to the latest communications technologies," says Henry Overduin, senior editor of the service. "It also provides an ideal training ground for journalism students interested in videotex."

-Two weeks of training in writing and editing for Telidon systems is offered as part of the students' print course. Students will also study the applications and social impacts of Telidon.

The school plans to expand the service to 50 stories daily. An agreement with the University of Regina's School of Journalism to have students there contribute to the service is also being negotiated.

For more information, contact  
Henry Overduin,  
Middlesex College,  
University of Western Ontario,  
London, Ont. N6A 5B7  
(519) 679-2133

#### CVCC SUB-COMMITTEE RECOMMENDATIONS

Following TVOntario's field trial evaluation which indicates that Telidon can be used as a successful instructional aid, the Education Sub-Committee of the Canadian Videotex Consultative Committee has recommended continued funding from federal and provincial governments, particularly in the area of software and applications development.

A summary of the recommendations are as follows:

-Support for research on the impact of new technology on education and information.

-Support for information and education-based content development, and marketing services for domestic and international applications.



- Revision of the copyright law to include new technologies such as video-discs, microcomputers, and Telidon-based systems.

- Establishment of new regulations governing access to public and personal information, including privacy codes.

- Development of a telematics policy to regulate the flow of information and introduce common production standards.

- Examination of policies and funding criteria of Canadian research councils.

- Development of free standardized software for public sector research councils.

- Development of bilingual data bases for the general public.

- Development of open networks for information and educational purposes, and technology sharing.

For more information, contact  
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Telecommunications, TVOntario,  
P.O. Box 200, Station Q  
Toronto, Ontario M4T 2T1  
(416) 484-2621

#### TVONTARIO COMPUTER ACADEMY

TVOntario now offers a computer course to help the general public, teachers, and students understand micro-electronics, recognize ways the new technology can meet their information needs, and adjust to computerized information systems.

The 12-program computer literacy series is designed to provide a basic understanding of micro-computers, how they function, and how to introduce them to every day life and education. The course was designed to meet the following objectives:

- to make the public aware of the potential and opportunities of micro-electronics for the individual.

- to provide teachers with the skills to use computers in the classroom.

- to present the features of currently available micro-computers and demonstrate how they work.

- to support the use of micro-electronics products developed and produced in Canada.

Twelve half-hour shows, broadcast weekly and repeated during the week, explain the basic steps for operating micro-computers and describe how computers work.

TVOntario also provide course guides and manuals, and issues regular newsletters outlining new developments in the field.

The course is offered in co-operation with schools, libraries, and public centres throughout the province and gives access to computers for participants to gain hands-on experience.

For more information, contact  
Paula Salvador,  
Manager, Project Development,  
TVOntario, 2180 Yonge St.,  
Box 200, Station Q,  
Toronto, Ontario  
M4T 2T1

#### TELIDON/TELECONFERENCING COURSE

The faculties of education and continuing education at the University of Calgary have launched a pilot program for teachers linking Telidon with the university's teleconferencing system.

The course, called Teaching Grammar in an Integrated Language Arts Program,



is aimed at teachers and administrators and offered via telephone. Using a Telidon terminal to call up pages of instruction and graphics, a lecturer at the university's control centre demonstrates how the new system may be used to teach English to young students.

Students throughout the region see the lecture across their TV screen as the instructor's voice is broadcast over a loudspeaker. They may ask questions by speaking through headsets.

The course is worth one quarter of a university credit and is recorded on cassette tapes for students to review.

For more information, contact  
Barry Ellis,  
Program Director of Distance Education  
and Teleconferencing,  
University of Calgary,  
2500 University Dr.,  
N.W., Calgary, Alberta  
T2N 1N4 (403) 284-7477

#### TELIDON AND DISTANCE EDUCATION

The Alberta Correspondence School, in co-operation with Alberta Government Telephone and the Alberta Educational Communications Authority (AECA) has extended its Telidon correspondence program into 1982-83.

"For distance education, Telidon is an ideal way to improve and expand the means of delivering correspondence courses and services," says Hans Kratz, AECA program director.

During the last school year, 100 students in six rural high schools were enrolled in Mechanics 12, an experimental correspondence course about the mechanics of machines.

"Based on the evaluation of the trial and the comments made by those people involved, the experiment was successful," Kratz says.

The Alberta Correspondence School plans to offer more courses and include more schools. Programs are being developed in mechanics, accounting and other vocational courses. The school will offer six courses by September 1983.

For more information, contact  
Hans Kratz, Director,  
Alberta Educational Communications  
Authority,  
5th Floor, 10053, 111 St.,  
Edmonton, Alberta  
(403) 427-4920

#### REPORT ON DISTANCE LEARNING

A study on videotex as a delivery system for correspondence courses is available from the Educational Research Institute of British Columbia (ERIBC). Called Learning at a Distance and the New Technology, the study outlines applications for videotex, communication satellites, videodiscs, and microcomputers as communications links for isolated classrooms and homes.

Aimed at educators, librarians, resource planners, and the general public, the report provides an overview of distance learning activities nationally and internationally. Copies of the study (\$10) can be obtained from the ERIBC.

For more information, contact  
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Educational Research Institute of  
British Columbia,  
Suite 400 - 515 West 10th Avenue,  
Vancouver, B.C. V5Z 4A8  
(604) 873-3801

#### U. OF ALASKA TELETEXT SERVICE

The University of Alaska, in co-operation with Systemhouse Ltd., is offering a broadcast teletext service for off-campus students. The service will use the new North American



Presentation Level Protocol Syntax standard and will be delivered via the Learn Alaska Instructional Telecommunications Network.

"There will be no other system like this in the world...The University or Department of Education via the Learn Alaska Network can beam information or an entire computer program to the students. The Telidon technology can translate these programs for direct viewing on the television screen," said Bill McCaughn, president of the University of Alaska Instructional Telecommunications Consortium (UAITC) which operates the Learn Alaska Network.

"A student who is unable to be present during the actual time that a course is being offered on television or by audio conference will be able to access support material discussed during the presentation by calling up his course work instantaneously via Telidon. The Learn Alaska host computer, a DEC PDP 11/23, will be able to make available up to 200 pages of data every three seconds. Audio teleconferencing will be greatly enhanced by the providing of visual support material in Telidon format using the television screen."

Equipment for the project is provided by Norpak and software has been developed by Systemhouse and Genesys.

Systemhouse President Rod Bryden noted that Canada has made important advances in the international high technology marketplace. "Our proposal to the University of Alaska was chosen over foreign submissions, and European technology, which demonstrates that Canada is, indeed, a force to be reckoned with in the highly-competitive videotex area."

For more information, contact  
Rod Bryden,  
president, Systemhouse Ltd.,  
2827 Riverside Dr.,  
Ottawa, Ontario K1Y 0C4  
(613) 526-0670

## COUNCIL FORECAST FOR EDUCATION

Computer-aided learning (CAL) and personnel retraining are the most important issues facing educators in the 1980's, according to a recent Science Council Report on the impact of information technologies.

CAL will be introduced as a teaching aid to respond to the individual differences of students and to provide new opportunities for students to learn course material, the report predicts.

To respond to the needs of the information society, the report says educational institutions "must undertake extensive programs of retraining workers displaced by the revolutionary changes to our economic system brought about by the new technologies. To a great extent, the growing need for information industry skills can be met through such retraining."

The council also predicts an increase in Telidon-based home education services and university correspondence courses, and recommends development of specialized computer courses for students.

For more information, contact  
T.R. Ide, chairman, Computers and Communications Committee,  
Science Council of Canada,  
100 Metcalfe St, 17th Floor  
Ottawa, Ontario  
K1P 5M1,  
(613) 995-0409

## TVONTARIO EXPANDS TELIDON PROJECT

TVOntario, operated by the Ontario Educational Communications Authority, one of the earliest users of Telidon, has expanded its service and developed a Telidon-based career guidance system.

The new service offers 10,000 pages of career and guidance information for students and guidance counsellors. The Student Guidance Information Service



data base is accessible in Telidon format through the Datapac telephone network and broadcast throughout the province in teletext format as part of the TVOntario signal.

The Ontario government will spend an additional \$2 million over two years to support the project under its Board of Industrial Leadership and Development (BILD) program. TVOntario plans to add other educational data base services to the system and will purchase a host computer, two information provider terminals and 112 user terminals. More than 20,000 pages of information are to be available by April 30, 1983.

For more information, contact

John Syrett, Telidon Project Manager,  
TVOntario, Box 200, Station Q,  
Toronto, Ontario M4T 2T1.  
(416) 484-2931.

#### TELIDON BASED CAL IN ONTARIO SCHOOL

Results from the first Telidon-based computer-aided learning (CAL) course for high school students suggest that students in the advanced stream using Telidon learn new material quickly and easily, but students in the general stream respond better to teacher-led studies.

This was the basis of a report given at the June Videotex '82 conference by D. Trueman, Project Co-ordinator for Telidon in Education at M.M. Robinson High School in Burlington, Ontario.

Using the general mathematics course as outlined by the Ministry of Education in the province of Ontario, 129 grade nine students participated in the two month trial which ended December 1981.

The students were divided into advanced and general streams and sub-divided

into Telidon/CAL groups and teacher-led groups. At the advanced level, students working independently through the Telidon/CAL module, on average, did better than those in the teacher-led group. However for students in the general stream, the reverse was true, says Trueman.

"Students in the general group tend to have less ability and less interest in mathematics than those in the advanced stream and therefore get more easily discouraged when technical problems occur." Trueman says the most appropriate application of Telidon/CAL programmes for these students may be drill, reinforcement and remedial exercises.

Although more research is necessary, Trueman says, the Telidon system was found to be well suited to computer-aided learning. The graphics lend themselves to numerous educational applications and no knowledge of computer languages is necessary.

For more information, contact

D. Trueman, Project Co-ordinator for  
Telidon in Education,  
2425 Upper Middle St.,  
M.M. Robinson High School,  
Burlington, Ontario L7P 3N9.  
(416) 335-5588

#### U. OF VICTORIA TELIDON CAL COURSES

The University of Victoria is expanding its educational service, Project Natal, as part of DOC's IISP program.

The university received \$15,000 from DOC towards the purchase of six user terminals and five page-creation terminals to support the development of computer-aided learning courses in physics and language arts, Telidon page creation, editing and data base techniques. Electronic mail, calculation and text processing services will also be available.



In association with the Canadian Videotex Consultative Committee, the university has established an educational sub-committee of instructors for students and other potential Telidon users. Courses and seminars are to be offered at the University of Victoria and other educational centres.

For more information, contact  
Dr. W. D. Godfrey,  
Professor and Chairman,  
Department of Creative Writing,  
University of Victoria, Box 1700  
Victoria, B.C. V8W 2Y2.  
(604) 721-7306

#### TELIDON-BASED CAPTIONING SERVICE.

A Telidon-based closed captioning service for television is to be in operation by mid-1983. The Canadian Closed Captioning Development Agency (CCDA) has received a federal grant of \$125,000 to purchase Telidon-based captioning equipment to provide improved TV service to hearing-impaired Canadians.

The CCDA will produce subtitles or captioning so that deaf and hearing-impaired people will be able to understand what is being said on a TV program. A specially adapted television or a decoder attached to the TV set is required to display the spoken part of the programming as written text across the screen.

In April 1981, the agency received a federal grant of \$250,000 for start-up and administrative costs, including training, marketing and liason. A further contribution of \$125,000 was made through DOC's Industry Investment Stimulation Program for equipment purchase.

In co-operation with the National Captioning Institute in Washington, D.C., the CCDA is now supplying the CBC and CTV networks with temporary captioning of Canadian programs. The

CBC plans to commit \$1.5 million for CCDA services, and broadcasts a minimum of five hours of captioned programming per week on its English and French networks. The CCDA plans to negotiate agreements for captioning services with Global, TVOntario, TVA, Radio-Québec, pay-television licensees, advertising agencies, and the federal government.

The agency also plans to study other applications, such as second-language instruction and special education for deaf children.

The CCDA is a non-profit, private-sector company. The head office is in Toronto and captioning production centres are located in Toronto and Montreal.

For more information, contact  
Robert Lucyk,  
Canadian Captioning Development Agency  
880 Wellington St.,  
Ottawa, K1R 6K7  
(613) 232-6521

#### TELIDON PUBLIC INITIATIVES PROGRAM

Communications Minister Francis Fox has announced 12 Telidon projects that have qualified to receive a total \$1 million in assistance under the Telidon Public Initiatives Program (PIP). The funding will go towards the development of content for the projects which will be operated by non-profit organizations.

Project operators must demonstrate innovative and practical ways to use Telidon systems for special interest applications.

The qualifying organizations will offer Telidon services ranging from consumer ratings of automobiles, to native language information services and legal advice for women.

Those qualified for assistance were recommended by an interdepartmental committee which reviewed 30 proposals



from organizations who responded to the Minister's call for applications on November 12, 1981. The deadline for submissions was Dec. 22, 1981.

Mr. Fox praised the ingenuity and resourceful planning shown by the qualifying applicants. "Through the Public Initiatives Program, these organizations will provide exciting examples of the highly useful functions which Telidon can perform for special interest groups, not just in Canada, but around the world," the Minister said. (Descriptions of qualifying PIP proposals are listed on pages 9-11)

For more information, contact  
Betty Weinstein,  
chief, Community Information,  
17th floor, Journal Tower South,  
Department of Communications,  
365 Laurier Ave.,  
Ottawa, Ont. K1A 0C8  
(613) 996-4351



QUALIFIED APPLICANTS  
TELIDON PUBLIC INITIATIVES PROGRAM

Advisory Council on the Status  
of Women of St. John N.B.

Rosella Melanson,  
386 St. George St.,  
Moncton, N.B.  
E1C 1X2  
phone: (506) 388-9660

Agora

Michel Cartier,  
Université du Québec à Montréal,  
Pavillon Judith-Jasmin,  
C.P.8888, Station A,  
Montréal, Québec  
phone: (514) 282-4531

Automobile Protection Association

David Wineberg,  
448 Kent St.,  
Ottawa, Ontario  
phone: (613) 235-9941

The Canadian Automobile Association  
(CAA) of Ottawa.

Gary Cronyn,  
1775 Courtwood Crescent,  
Ottawa, Ontario  
phone: (613) 235-7631

City of Vancouver Economic  
Development Office, Vancouver, B.C.

Sid Fancy,  
601 West-Broadway, Suite 721,  
Vancouver, B.C.  
V5Z 4C2  
phone: (604) 873-7212

Project Name: Telidon

Project Description: to provide 2,500 pages in English and French describing current events, special programs, and other information of interest to women. The council will also create a lifestyles package and a national index of Canadians working on women's issues. The data base will be offered on the Project Mercury Telidon host computer operated by the New Brunswick Telephone company.

Project Name: Project Agora

Project Description: to provide a teletext service for 120 handicapped groups in Montreal. Pages will be created and accessed by handicapped groups. The service will be offered through the Télécable Vidéotron Telidon service in Montreal.

Project Name: Automobile Protection

Project Description: to provide information in English and French about automobile performance ratings and consumer rights. The service offers 16 pages of animation and a two-way service for motorists to register complaints about their vehicles. The APA data base is available through Bell's Vista Project in Toronto.

Project Description: to provide 575 pages of information in English and French for its member associations and consumers across Canada about performance ratings of new and used cars, their market value, consumers' complaints and mechanical advice. The CAA data base is offered through Bell Canada's Project VISTA. The CAA also plans to develop an interface with Apple computers.

Project Name: Telidon

Project Description: to create an interactive polling service for civic issues. The city will create 150 pages of information on Vancouver's public policy, employment and human resources, transport and housing. The service will be offered through B.C. Tel's Telidon data base.



Federation of Saskatchewan Indians

Doug Cuthand,  
310 20th St. East,  
Saskatoon, Saskatchewan  
phone: (306) 665-0911

Project Name: F.S.I.N. Telidon

Project Description: to develop a centralized system for the internal administration of the F.S.I.N. and Sinco, an Indian development corporation. The service will also include 800 pages of information on regional and health services for 69 bands and communities throughout Saskatchewan. The service will be offered through SaskTel's Telidon project, Pathfinder. SaskTel will provide free page storage and telephone line service.

Greater Vancouver Information and Referral Service

Margaret Benston,  
Suite 105, 1956 West Broadway,  
Vancouver, B.C.  
phone: (604) 291-3411

Project Name: Community Telidon Network of the Pacific.

Project Description: to establish and deliver courses in videotex page creation for students in the advertising, broadcasting and commercial arts fields.

Inuit Tapirisat of Canada

Patricia Logrippa,  
176 Gloucester St.,  
Ottawa, Ontario  
K2P 0A6  
phone: (613) 238-8181

Project Name: Inuit and Telidon

Project Description: to undertake a feasibility study on the establishment of a national Inuit electronic news service. The study will include an evaluation of newsgathering techniques and the Telidon services which best suit Inuit needs. Inuit writers and artists will also create native language sample pages.

Northern Native Broadcasting

Conrad Kordoski,  
22 Nisullin Dr.,  
Whitehorse, Yukon  
Y1A 3S5  
phone: (403) 667-7636

Project Name: Telidon Project

Project Description: to provide information about government, educational, business and community services. Initially 100 english pages are to be created using, on loan, a Norpak GC/1000 page creation terminal and a Tayson IBM personal computer. Pages will be updated regularly. The project will also include testing of new systems for simultaneous page creation and information retrieval.

Nutrition Information Centre

Professor Don Gillies,  
Learning Resources Centre,  
Ryerson Polytechnical Institute,  
Room 1955, 50 Gould St.,  
Toronto, Ontario  
phone: (416) 595-5043

Project Name: Telidon

Project Description: to provide a 4,500 page directory of food and nutrition information. The tiered data base will offer different levels of information for children, teenagers and adults. The service will be offered through Bell Canada's Project Vista in Toronto.



Ontario Association for the Cerebral  
Palsied, Toronto, Ont.

Clarence Myers,  
Suite 300, 2010 Yonge St.,  
Toronto, Ontario  
M4S 1Z9  
phone: (416) 485-6913

Project Name: Telidon

Project Description: to expand its role as an information provider (IP) in Bell Canada's Vista project, and act as an IP in the TVOntario service. Telidon terminals located in five Ontario centres will provide disabled persons with more than 7,500 pages of information on disabilities and independent living, aids and devices, mobility and accessibility, recreation and interpersonal relations. The Association later plans to establish a Telidon network using an Apple computer.

Tagramiut Nipingat Inc.

Josepi Padlayat,  
Suite 2-1, 376 Churchill Ave.,  
Ottawa, Ontario  
phone: (613) 722-0912

Project Name: Telidon

Project Description: to conduct a feasibility study and design a communications model outlining Telidon applications for Inuit communities in northern Quebec. The study will include an analysis of information flows and Inuit information needs.



TELIDON: The "electronic encyclopedia"  
of the future?

By Juli Voyer

Telidon is impressive. This Canadian videotex system has developed high-definition graphics through its unique alpha-geometric coding scheme, an ability to transmit information over any medium, and has been approved as a world videotex standard. In addition, Telidon is fast becoming recognized by communications experts as the world's best videotex system. The full range of its applications is only now being explored, but among some of its services, Telidon can already provide information retrieval, electronic publishing, data processing, two-way message communications, telemail and computer games.

In what way can the public be made aware that the Telidon benefits are applicable to households and not just to businesses? How can education programmes be designed for individual instruction, yet be relevant and available to a wide audience? That Telidon has carved its deserved place as a technological superstar is beyond dispute, but can it have an application to culture, arts, aesthetics and language? In short, how can we put a harness on this innovative, continually refining videotex system and domesticate it for our individual human needs?

Many professionals representing diverse backgrounds in arts, sciences, engineering and communications are taking up the challenge of these questions and many more. One example of a possible application of Telidon as an educational tool is the approach being explored by the Museum of Man and the Museum of Science and Technology. Their objective is to produce a cultural information database of Telidon pages which would be developed from the combined talents of professionals in artistic, scientific and

technological fields. The package themes would relate directly to the many aspects of our cultural, anthropological, geographical and scientific heritage and would include subjects as diverse from each other as, tales our ancestors told us, or the history of communications technology, or physics experiments and simulations.

It is evident that in order to understand and creatively apply this new technology, the restrictive fences surrounding the artistic field, the scientific field or the engineering field must be removed. Different restrictions are imposed by the technology itself and to overcome those restrictions imaginatively, interdisciplinary co-operation is both essential and stimulating. For example, instead of shying at the impact of technology, the artist can choose instead the role of integrator, whose purpose is to humanize and to give meaning to the many faces of "progress".

Our National Museums offer a highly fertile environment for a Telidon educational programme to flourish. First, they have an audience. Thousands of people representing diversities of age, background, education and interests pass through the museum doors each year. Second, the museums present information in an unbiased way since they are not governed by the marketing restrictions of industry, nor is the information tied to the attainment of grades or degrees.

The thematic packages that might be offered would be accessible by language, by level (elementary to advanced) and by stream. "Stream" means a particular perspective on your chosen subject. This could be a historical time view, a geographical situation, a technical discussion, social implications and even self-teaching quizzes with rewards and feedback.



Telidon terminals in the museum buildings would be linked to a VAX 11/750 host computer, already in place at the Museum of Science and Technology. But, as the number of home terminals proliferates, the museums will have the capability of reaching a far wider -- national and even international -- audience than their average half million visitors a year. For example, a high school student in say, Manitoba, could sit at his home terminal and complete his research on a term paper without ever leaving his house. Through the use of Telidon, he would become one of the thousands of museum "visitors at a distance".

Obviously, the museums' image of containing only dusty relics of the past is gone. Already, the Museum of Science and Technology has an elaborate and innovative computer room which combines artistic and technological ingenuity. "The Soup Machine" inhabits a whole wall and through ingenious devices ranging from ping-pong balls to motors and blowers, it imaginatively describes the workings of a computer. Steps away are a number of video terminals which offer "hands-on" experience.

Ted Paull is assistant curator of Communications Technology at the Museum of Science and Technology and a principal player in the establishment of the Computer Room. Enthusiasm sparks him as he comments, "One of the constant complaints I hear about it (the Computer Room) is that you can't yet near the terminals because the kids are glued to them. They're like bees around honey." He laughs. He knows it's successful. It's a vision that has been brought to life.

John Lomoro, new technology advisor to the New Accomodations Task Force for the Museum of Man, has been involved with the development of strategies for Telidon in museums. His goal is to have the museum as close as the family

bookcase, even though it will physically be in the National Capital Region.

The application of Telidon within the museums' context is another vision. Let's hope that too, will be brought to life.



## A Telidon Experience

By Roger Elmes

Chairman

National Organization CVCC Education

Sub-Committee

The Association of Canadian Community Colleges (ACCC) became interested in the Information Society in June, 1979 when Jim Feeley, then Director of Learning Resources at Algonquin College and I met to discuss educational publishing in Canada. As the discussion unfolded over 3 or 4 months, it became increasingly oriented toward the much broader and more dynamic questions associated with Telidon, videodiscs, satellites, microcomputers, etcetera.

Attempts were made by the ACCC to organize a national committee of educators to advise the Federal Department of Communications (DOC) on the impact of these new information technologies on Canadian society and education. A decision by DOC that such a committee would prove to have too high a profile resulted in the ACCC co-operating with TVOntario and DOC, to structure and find members for the Education Sub-Committee of the CVCC.

Since that time, the ACCC has been very active in the Education Sub-Committee and in attempts to have either or both DOC and Secretary of State develop a policy on the creation of Canadian software/courseware for Telidon, videodiscs and microcomputers.

Although very few educators would advocate federal control of education courseware, most would agree that a high level of co-ordination of funding in the initial stages, coupled with an extensive information exchange through pan-Canadian networks of both individuals and hardware, would prove highly useful.

Approval of the concept of a programme at the federal level to approval of

funding, engagement of staff and operation of the programme, takes at least two years. To date no federal government department has approved even the concept of a programme to support the creation of education courseware.

Consequently, educators are left with the realization that they must begin to shift to new high technology delivery systems and the companion realization that no real financial support is on the horizon.

While there have been gains for educators in the field of micro-computers and Telidon, they have been minor in relation to the problems we face. The time for a clear policy is now.

In brief, my Telidon experience has been exciting, dynamic and has afforded me an opportunity to meet many very interesting people. But the predominant feeling I am left with is one of overwhelming frustration that the bureaucratic wheels grind oft so slow and fine.

Hopefully in the near future we will see a policy which takes into account the potential integration of the various traditional and new delivery systems; the recommendations for government action on p. 3 of this Telidon Reports; and substantial funding for the creation of Canadian software/courseware are but the first steps.



## Telidon and Education

By D.R.F. Taylor

Chairman, Ontario Region

CVCC Education Sub-Committee

Carleton University was an early participant in the OECA Field Trials of Telidon and as with many others, our initial experiences were very frustrating indeed. For some months little or no progress was made due to problems with the hardware. It quickly became apparent that a major barrier to effective use of Telidon for our purposes was the bottleneck of input. We could not purchase an expensive IPS and arranging to use one of the few available was time consuming. In addition, we had been creating high quality computer graphics in the form of maps for several years using a digitizer and found the light pen and later the graphics tablet used for Telidon input inadequate for our purposes. It was also frustrating to have large quantities of graphics already in digital form and be unable to feed these directly into Telidon without entering them again through an IPS.

Consequently we took several steps. A software program was written to allow page creation for Telidon on a North Star Horizon microcomputer. Software interfaces were also written between existing graphics programs such as MIGS and GIMMS and Telidon. This allowed rapid page creation and display in house with the pages being stored on floppy disks. By plugging the microcomputer into the Telidon decoder, a closed page creation and display system is created. We are currently adapting these programs to the ORION V, a Canadian manufactured microcomputer using CPM to increase the portability of the software. We have experienced difficulties with transfer of the pages we create on the 5 1/2 inch diskettes of the North Star Horizon to the main frame computer which act as hosts for larger data bases. Hopefully this will be easier using the ORION.

The map is a special kind of graphic image but experimentation with the creation of maps for Telidon has revealed a whole range of design challenges. Telidon is more than a medium for electronic printing and much remains to be learned about the cognitive aspects of communication using this new medium. This will require a very different type of page design from those pages currently on the data base if the educational potential of Telidon is to be realized.



Socio-Feedback on teleprocessing: A  
Socio-Cultural Electroencephalogram

André Hébert, Chairman Quebec Region  
CVCC Education Sub-Committee

Telematics is a technological sponge

Telematics is not the ultimate technical development in the communications field. Nevertheless, this technological concept seems to be so powerful that it has absorbed all other existing technologies to date and will apparently be able to absorb recent technical innovations as well. Telematics is a sponge that soaks up technology.

Telematics is always looking for new hardware to put to direct or indirect use. Communications are relayed by radio and shortwave antennas and via satellite; bits of information are carried by telephone wires, optical and coaxial cables; numerical images are recorded on videotape and videodiscs; information is stored in large, mini and micro-computers. Telematics will make use of any type of hardware; every type of equipment is grist to its mill.

Telematics is gradually becoming more and more eclectic in its use of a variety of technologies to process different kinds of information. It seems to be able to handle any application developed by hardware suppliers, such as advertising, cataloguing, inventory control, bibliographic research, news reporting, subtitles, games, general and specialized information. It uses small screen terminals of 20 lines containing 40 characters each. As easily as it has absorbed hardware and communications networks, telematics will handle human language with little concern for traditional grammar rules, in a style reminiscent of a diary or journal, a grocery list, an inter-office memorandum or a ship's log.

As teachers, we do not object to telematics domination of other technologies, as long as it does not dominate our young pupils as well. We may not be able to keep telematics from soaking up technology, but we must control telematics itself and show how we expect it to serve education. Since it is quick to take advantage of new communication techniques, we should stress those of interest to educators and even suggest a few ideas of our own.

We ourselves possess information that will lead to technical innovations and developments making telematics easier for users. Before we can devote all our energies to the pursuit of these developments, we must wait and hope for educators to take an interest in this technology, particularly in Quebec. Only then will we have access to the material resources we require, such as budgets, laboratories, field trials and exchanges between researchers and developers.

Telematics is a technological chameleon

"Now, do you want a small or a large system? Medium, then. Should it be centralized or decentralized? You're not sure? That's fine, no problem, we can decide that later. Will the system be for personal, expert or public use? All three? All right, I'll make a note of that. And are you looking for a non-conversational model or one that is interactive? Can't make up your mind? You can combine the two, you know."

If telematics were a marketable item, these are some of the questions a sales representative would ask a prospective buyer. We hasten to add that telematics is not a piece of merchandise, though a price must obviously be paid for hardware, software, data, skills and services. Instead, telematics is a system that we can design according to our own resources and requirements. It is a



technological chameleon that continually adapts itself to its cultural and economic environment (with our guidance, of course).

#### Telematics is an avenue of educational reform

In 1783, some people believed that airships would multiply to the point of blocking out the sun. In 1889, they thought the Eiffel Tower was a monstrosity that would frighten tourists away from Paris. Do we believe in 1982 that telematics is "the devil in our midst"?

If the above comment refers to our schools, it is easy to see that in a few years our present educational system will become too costly to operate (if such is not already the case); solutions will have to be found immediately and implemented by educators themselves. Telematics may be one of these solutions. If the remark is aimed at telematics itself, we should have the courage to say that there can be no genuine "telematics revolution" unless it serves users first and foremost. Is it not, indeed, the role of the educator to serve?

Failure to take an interest in telematics will set education back not by a few years but by a whole civilization. For the present, there is no cause for alarm. It is sufficient to say that telematics is an avenue of educational reform.

In this regard, we must be careful to avoid repeating some of our past mistakes (at least our unfortunate experiences with audio-visual aids). Through research and development, we must see whether telematics technology can be applied to certain aspects of the educational system. These include ensuring universal access to the same information, continually retraining adults and teachers, co-ordinating the various levels of the educational

system, making facilities available to remote and handicapped users, and adapting them to meet specific local and regional needs.

Furthermore, since teachers fear the obsolescence of their traditional role and students resist any change in the student-teacher relationship, we must see whether telematics technology is flexible enough to allow the users themselves (both teachers and students) to define its applications.

What we are proposing, in short, is a reasoned analysis of telematics as an avenue of educational reform. This analysis must take into account the various factors involved -- users, messages (educational, administrative, structured, interactive and so on), communications networks (design, speed and cost) and available resources -- and must, of course, safeguard Quebec's language and culture.

#### Historically speaking, telematics is subversive

About two decades ago, the power of electricity led Marshall McLuhan to declare that "the medium is the message". With the advent of electronics, we are now learning that the message is the medium.

We are progressing from mass communications to massive communications. This is not just a play on words. Rather, it is a short way of saying that we are evolving from "universal access to information" to "access to universal information". The nature of telematics (data communications, teletext and videotex) is such that it will result in radical social change or what the Americans call a "paradigm shift". Telematics will force people, individually or as a group, to develop and choose. After a transitional period of more than twenty-five years, we are emerging from the age of mutual



passivity in the field of communications and entering the age of interaction.

Like the human brain with its alpha, beta and delta waves, each nation emits cultural, economic and political waves from its collective consciousness. Telematics will become a type of socio-feedback (similar to bio-feedback), a cultural electroencephalogram for societies that develop it in a spirit of acceptance and even enjoyment of progress and change.

That is why we say that, historically speaking, telematics is subversive. Its logical results are economic co-management, cultural independence and responsibility, and participatory democracy as a political system. If, however, this technology is developed within the confines of the present political, economic and cultural conditions, the result will be the reign of collective stupidity.

In other words, depending on the evolution of this technological concept, we shall be the masters of our own destinies or else we shall be led like sheep.

The role of education is of particular importance here. It can either promote dialogue, self-expression and interaction, or it can impose silence, repress thought, stifle dialogue and encourage passivity.

#### In human terms, telematics is a springboard to change

Forward thinkers never fully express their thoughts. Thus, McLuhan merely pointed out how technology could extend people's minds, bodies and senses.

There is, however, another side to the coin. Technology extends our known selves only to enable us to achieve our future goals more easily, to begin to transcend ourselves right now.

A little history is in order here. Since the dawn of our species, we have extended our bodies in a thousand ways. (The best example I can give at the moment is the pen gliding over the sheet of paper before me.) Technology aids our senses, too. Microscopes and telescopes see for us. Countless devices help us hear, smell, touch, taste and move. Our brains are backed up by a growing army of computers. Medical science is increasingly finding ways to replace or extend all of our vital functions.

Is the same thing happening to our emotions? It is hard to admit, but has military technology not extended the reach of personal, collective and even anonymous aggression? Have Japanese experiments not led to the invention of video games, an apparently successful substitute for sexual passion, a technological chastity belt for travelling business men and women? Does bio-feedback not enable us to attain, with only a few hours' practice, the Nirvana it takes Buddhist monks a lifetime to achieve?

Do simulation capabilities not allow us to experience a vast array of sensations without running any physical risks?

Telematics is another step in our evolution; it will probably extend our collective consciousness. That is why we call it a springboard to the major social change for which the human race appears to be ready.

Educators must promote the development of subversive teleprocessing in a climate of democracy and co-management.

#### Conclusion

Telematics technology holds a great deal of promise, but we should not think of it as Ariadne's clue leading us out of the labyrinth of modern materialism. Technology is not



important because it extends our selves  
but because it reflects the humanity  
which is our abiding characteristic.

The onslaught of technology need not  
destroy us; we shall emerge unscathed  
if only we preserve our dignity, our  
courage, our imagination, our will and,  
above all, our humanity.

Here and now as before, technology  
cannot reproduce, add to, or exist  
without humanity's ultimate goal: the  
life, peace and love embodied in a  
little child.

This is the source of the educator's  
interest in technology.



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